



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/585,714	05/31/2000	Stephen P. Zadesky	004860.P2452	3805

7590

08/13/2003

Erica W Kuo
Blakely Sokoloff Taylor & Zafman LLP
Seventh Floor
12400 Wilshire Boulevard
Los Angeles, CA 90025-1026

EXAMINER

SHIPSIDES, GEOFFREY P

ART UNIT

PAPER NUMBER

1732

DATE MAILED: 08/13/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/585,714

Applicant(s)

ZADESKY ET AL.

Examiner

Geoffrey P. Shippides

Art Unit

1732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 12 June 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-37 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-37 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

1. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

2. Claims 1-37 rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

With regard to claims 1-14, claim 1 was amended to recite, "wherein the protective barrier prevents the rubber layer from disrupting a structure of the plastic piece" on lines 6-7. The original specification does not have literal or inherent support for this limitation. The original specification does teach that the barrier layer prevents the rubber layer from "attacking" the plastic piece, but does not provide support for the barrier layer preventing the rubber layer from disrupting a structure of the plastic piece. Claims 2-14 are dependent upon claim 1. Removal of this new matter is required.

With regard to claims 15-37, claim 15 was amended to recite, "wherein the polyurethane coating prevents the rubber layer from disrupting a structure of the plastic piece" on lines 11-12. The original specification does not have literal or inherent support for this limitation. The original specification does teach that the polyurethane coating prevents the rubber layer from "attacking" the plastic piece, but does not provide

Art Unit: 1732

support for the polyurethane coating preventing the rubber layer from disrupting a structure of the plastic piece. Claims 16-37 are dependent upon claim 15. Removal of this new matter is required.

3. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

4. Claims 1-37 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With regard to claims 1-14, claim 1 was amended to recite, "wherein the protective barrier prevents the rubber layer from disrupting a structure of the plastic piece" on lines 6-7. This limitation is, however, unclear and indefinite. It is unclear what would constitute a disruption of a structure of the plastic piece. It is unclear what would constitute a structure of the plastic piece. It is the examiner's position that this limitation does further define the claim because it would seem that any intermediate layer would inherently prevent layers on either side from disrupting each other (and the structure of each material) to some degree.

With regard to claims 15-37, claim 15 was amended to recite, "wherein the polyurethane coating prevents the rubber layer from disrupting a structure of the plastic piece" on lines 11-12. This limitation is, however, unclear and indefinite. It is unclear what would constitute a disruption of a structure of the plastic piece. It is unclear what would constitute a structure of the plastic piece. It is the examiner's position that this limitation does further define the claim because it would seem that any intermediate

Art Unit: 1732

layer would inherently prevent layers on either side from disrupting each other (and the structure of each material) to some degree.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 1, 2, and 10 are rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,550,058 (Collins et al.).

With regard to claim 1, Collins et al. teaches to provide a plastic piece (polycarbonate rod), and the application (wrapping) of a protective barrier (intermediate layer) to at least part of the plastic piece, and the molding (wrapping) of a rubber layer (soft plasticized polyvinyl chloride) on to at least the part of the plastic piece over the protective barrier (Column 6, lines 36-50).

It is the examiner's position that the soft plasticized polyvinyl chloride constitutes a rubber. Further, Collins et al. teaches that the soft layer can include "a rubber modified styrene resin" (Column 10, line 2; Column 5, lines 45-54) and thus Collins et al. anticipates the use of rubber as the soft-top layer. Collins et al. also teaches that the intermediate layer must be sufficiently thick to function as an effective barrier layer (Column 5, lines 19-21), thus the intermediate layer constitutes a protective barrier.

Although Collins et al. does not use the word "casing" to describe the laminated structure, the examiner interprets the word "casing" to mean any thing that encloses or

Art Unit: 1732

covers something. One example given by Collins et al. of a composite structure is an automobile instrument panel (Column 1, lines 53-54). The examiner takes the position that an automobile instrument panel constitutes a casing (for the wiring and other machinery behind the instrument panel) and thus Collins et al. anticipated the production of a casing by the method as taught by Collins et al.

Further, although Collins et al. does not use the word "molding" to describe the manner in which the soft-top coat is applied to the polycarbonate. Collins et al. does teach the wrapping of soft top (rubber) layer on to the protective layer and held in place for a sufficient amount of time (Column 6, lines 36-56). This process is used to shape and connect the rubber layer (soft top) to the plastic piece (polycarbonate piece) and thus the examiner interprets the process as taught by Collins et al. as a molding step.

Further, Collins et al. teaches that the barrier layer prevents the migration of the plasticizer from the soft top layer (rubber layer) to the polycarbonate substrate (plastic piece) (Column 5, lines 19-22), which would constitute the prevention of the rubber layer from disrupting the structure of the plastic piece as Collins et al. teaches that plasticizer degrades the polycarbonate (Column 1, lines 15-20).

With further regard to claim 2, Collins et al. teaches the use of a polycarbonate plastic piece.

With further regard to claim 10, Collins et al. also teaches that the intermediate layer must be sufficiently thick to function as an effective barrier layer (Column 5, lines 19-21) and it is inherent in the process that in order for the intermediate layer to be an

Art Unit: 1732

effective barrier layer that it must prevent the plasticizers in the rubber layer from diffusing into the plastic (polycarbonate) layer (the attack of the plastic layer).

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1, 2, 5, 10, 11, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,550,058 (Collins et al.).

Alternatively, even if the process of assembling the rubber layer (soft top layer) onto the plastic piece (polycarbonate piece) does not constitute a step of molding the rubber layer on to the plastic part, claims 1, 2, and 10 are rejected under 35 U.S.C. 103(a).

With regard to claims 1, 2, and 10, it is notoriously well known in the art of forming composite structures to form the composite structure by molding the layers together either through co-extrusion or by injection molding against a preform (depending upon the desired final shape of the product). It would have been obvious to one having ordinary skill in the art at the time of invention to form the layered structure as taught by Collins et al. by the well known methods of co-extrusion or by injection molding against a preform, depending upon the desired final shape of the product being formed.

Art Unit: 1732

With regard to claims 5, 11, and 14, it is well known in the art to produce translucent and transparent consumer articles in order to increase the aesthetic appeal of the consumer article. It would have been obvious to one having ordinary skill in the art at the time of invention to produce consumer articles with the structure as taught by Collins et al. out of transparent and translucent materials in order to produce a transparent article with improved aesthetic appeal.

9. Claims 6 and 7 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,550,058 (Collins et al.) as applied to claims 1, 2, 5, 10, 11, and 14 above, and further in view of U.S. Patent No. 5,326,800 (Horn et al.)

With regard to claims 6 and 7, Collins et al. does not teach the use of this structure for a computer casings, but simply for use with polycarbonate articles that have a soft skin used to improve the aesthetic appeal of the article (Column 1, lines 6-9). Horn et al. teaches that computer casings are often made of polycarbonate (Column 5, lines 64-68). It would have been obvious to one having ordinary skill in the art at the time of invention to use the structure as taught by Collins et al. in the production of computer casings as it is known in the art to produce computer casings out of polycarbonate (Horn et al.) and to provide an outer soft skin on polycarbonate articles (Collins et al.) in order to produce a decorated computer casing which will not have the plasterers in the soft skin attack the polycarbonate. It is noted that a computer casing is a computer peripheral.

10. Claims 8, 9, 12, and 13 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,550,058 (Collins et al.) as applied to claims 1, 2, 5,

Art Unit: 1732

10, 11, and 14 above, and further in view of U.S. Patent No. 6,258,443-B1 (Nilsen et al.), U.S. Patent No. 4,543,291 (Giles, Jr. et al.), U.S. Patent No. 5,334,450 (Zabrocki et al.), U.S. Patent No. 3,496,000 (Hull et al.), and U.S. Patent No. 6,007,902 (Adur et al.).

With regard to claims 8, 9, 12, and 13, Collins et al. does not specifically teach the use of polyurethane as an intermediate protective layer nor does Collins et al. teach the application of intermediate protective layer in liquid form under ambient conditions to the polycarbonate piece.

Nilsen et al. teaches that the adhesion between the body layer and the land layer or cube-corner elements can be improved by the use of a tie layer such as aliphatic polyurethane (Column 15, lines 43-55). Nilsen et al. teaches that the cube-corner elements are made of polycarbonate (Column 15, lines 43-44).

Giles, Jr. et al. teaches that multilayer compositions have been utilized for many years and that tie layers are known to be used to join incompatible layers (Column 1, lines 5-58). Giles, Jr. et al. further teaches the positive qualities of polycarbonate (Column 1, lines 12-14).

Zabrocki et al. teaches a weatherable film that uses a tie layer to connect a weatherable layer comprising AES (acrylonitrile-ethylene/propylene rubber-styrene), a rubber, to a third layer (Abstract). Zabrocki et al. further teaches that the intermediate tie layer may be made of polyurethane adhesive (Column 4, lines 59-60).

Hull et al. teaches a method of producing artificial leather (title) with layers of plastic materials. Hull et al. teaches that polyurethane may be used as the tie layer material (Column 2, lines 5-6).

Adur et al. also teaches the use of a tie layer applied to a substrate prior to the application of a second material in order to form a better-connected composite structure (Figure 4).

It is further well known in the art that polyurethane is formed from liquid precursors (usually an isocyanate component and a polyol component) that are reacted and cured at ambient conditions to form polyurethane. It is further well known in the art to react and cure the liquid precursors of polyurethane against a preform to create a well-connected polyurethane and preform composite.

It is clear from the prior art references of Collins et al., Nilsen et al., Giles, Jr. et al., Zabrocki et al., Hull et al., and Adur et al. that it is well known in the art to form intermediate tie layers between materials, especially incompatible materials, in order to form a better connected composite structure and a protected substrate layer. Collins et al., while not teaching the use of polyurethane as an intermediate layer, does not teach away from the use of polyurethane as an acceptable intermediate layer (Table 1). It would have been obvious to one having ordinary skill in the art at the time of invention to modify the teachings of Collins et al. of disposing a protective intermediate layer between polycarbonate and relative soft plasticized top coat by applying a layer of polyurethane to the substrate as the protective layer (a tie layer) between the plastic and rubber layers in order to create a better connected composite structure and a protected layer of polycarbonate. One having ordinary skill in the art at the time of invention would have been motivated by the teachings of Nilsen et al. and Zabrocki et al. to test out polyurethane as a suitable intermediate layer as Collins et al. tested out a

Art Unit: 1732

series of different intermediate layers to find the most suitable protective layers in order to find a possible less expensive manner to protect polycarbonate and to produce protected polycarbonate in a more efficient and less expensive manner. It would have been further obvious to one having ordinary skill in the art at the time of invention to form a protected layer of polyurethane by coating the polycarbonate as taught by Collins et al. with a layer of liquid precursors of polyurethane and to react and cure those precursors to form a well connected layer of polyurethane as is well known in the art to the polycarbonate prior to the molding of a rubber layer onto polycarbonate in order to protect the polycarbonate from degradation as taught by Collins et al.

11. Claims 3 and 4 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,550,058 (Collins et al.) as applied to claims 1, 2, 5, 10, 11, and 14 above, and further in view of U.S. Patent No. 5,856,371 (Grimm et al.) and U.S. Patent No. 6,221,436-B1 (Perry et al.).

With regard to claims 3, Collins et al. does not specifically teach a step of cleaning the plastic piece before the application of the barrier layer to the plastic piece. Grimm et al. and Perry et al., however, both teach processes where a surface to be molded against is cleaned prior to molding in order to improve adhesion between the preform and the molded (applied) material.

Grimm et al. teaches the production of a sandwich structure by molding polyurethane against PMMA. Grimm et al. further teaches, "In order to obtain this outstanding adhesion it is sufficient to clean the PMMA surface to be coated with a rag soaked in n-ethanol so that it is free from grease and dust." (Column 4, lines 38-40)

Art Unit: 1732

Perry et al. teaches a coating method involving substrate cleaning (title). Perry et al. teaches that substrates are generally cleaned prior to coating (Column 1, lines 18-22). Perry et al. teaches the use of alcohols to clean substrates (Column 2, line 25) and teaches the drying of the substrate after cleaning by blowing air onto the substrate (Column 3, lines 40-41).

It would have been obvious to one having ordinary skill in the art at the time of invention to clean the surface of the polycarbonate article as taught by Collins et al. prior to applying (molding) on the protective layer in order to improve the adhesion between the polycarbonate layer and the protective layer in order to form a more resilient product.

With regard to claim 4, Collins et al. also does not specifically teach a step of drying after cleaning, but Perry et al. teaches a step of drying a substrate after cleaning of the substrate. It would have been obvious to one having ordinary skill in the art at the time of invention to dry the polycarbonate after cleaning the polycarbonate in order to ensure that any cleaning solvents used to clean the polycarbonate do not interfere with the bonding of the polycarbonate with the protective layer.

12. Claims 15-22 and 25-37 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,550,058 (Collins et al.) in view of U.S. Patent No. 6,258,443-B1 (Nilsen et al.), U.S. Patent No. 4,543,291 (Giles, Jr. et al.), U.S. Patent No. 5,334,450 (Zabrocki et al.), U.S. Patent No. 3,496,000 (Hull et al.), U.S. Patent No. 6,007,902 (Adur et al.), U.S. Patent No. 5,856,371 (Grimm et al.) and U.S. Patent No. 6,221,436-B1 (Perry et al.).

With regard to claims 15 and 25-27, Collins et al. teaches to provide a plastic piece (polycarbonate rod), and the application (wrapping) of a protective barrier (intermediate layer) to at least part of the plastic piece, and the molding (wrapping) of a rubber layer (soft plasticized polyvinyl chloride) on to at least the part of the plastic piece over the protective barrier (Column 6, lines 36-50).

It is the examiner's position that the soft plasticized polyvinyl chloride constitutes a rubber. Further, Collins et al. teaches that the soft layer can include "a rubber modified styrene resin" (Column 10, line 2) and thus Collins et al. anticipates the use of rubber as the soft-top layer. Collins et al. also teaches that the intermediate layer must be sufficiently thick to function as an effective barrier layer (Column 5, lines 19-21), thus the intermediate layer constitutes a protective barrier.

Further, although Collins et al. does not use the word "molding" to describe the manner in which the soft-top coat is applied to the polycarbonate. Collins et al. does teach the wrapping of soft top (rubber) layer on to the protective layer and held in place for a sufficient amount of time (Column 6, lines 36-56). This process is used to shape and connect the rubber layer (soft top) to the plastic piece (polycarbonate piece) and thus the examiner interprets the process as taught by Collins et al. as a molding step.

Further, Collins et al. teaches that the barrier layer prevents the migration of the plasticizer from the soft top layer (rubber layer) to the polycarbonate substrate (plastic piece) (Column 5, lines 19-22), which would constitute the prevention of the rubber layer from disrupting the structure of the plastic piece as Collins et al. teaches that plasticizer degrades the polycarbonate (Column 1, lines 15-20).

Collins et al. also does not teach the use of polyurethane as an intermediate protective layer nor does Collins et al. teach the application of intermediate protective layer in liquid form to the polycarbonate piece.

Nilsen et al. teaches that the adhesion between the body layer and the land layer or cube-corner elements can be improved by the use of a tie layer such as aliphatic polyurethane (Column 15, lines 43-55). Nilsen et al. teaches that the cube-corner elements are made of polycarbonate (Column 15, lines 43-44).

Giles, Jr. et al. teaches that multilayer compositions have been utilized for many years and that tie layers are known to be used to join incompatible layers (Column 1, lines 5-58). Giles, Jr. et al. further teaches the positive qualities of polycarbonate (Column 1, lines 12-14).

Zabrocki et al. teaches a weatherable film that uses a tie layer to connect a weatherable layer comprising AES (acrylonitrile-ethylene/propylene rubber-styrene), a rubber, to a third layer (Abstract). Zabrocki et al. further teaches that the intermediate tie layer may be made of polyurethane adhesive (Column 4, lines 59-60).

Hull et al. teaches a method of producing artificial leather (title) with layers of plastic materials. Hull et al. teaches that polyurethane may be used as the tie layer material (Column 2, lines 5-6).

Adur et al. also teaches the use of a tie layer applied to a substrate prior to the application of a second material in order to form a better-connected composite structure (Figure 4).

It is further well known in the art that polyurethane is formed from liquid precursors (usually an isocyanate component and a polyol component) that are reacted and cured in approximate equal amounts at ambient conditions to form polyurethane. It is further well known in the art to react and cure the liquid precursors of polyurethane against a preform to create well-connected polyurethane and preform composites.

It is clear from the prior art references of Collins et al., Nilsen et al., Giles, Jr. et al., Zabrocki et al., Hull et al., and Adur et al. that it is well known in the art to form intermediate tie layers between materials, especially incompatible materials, in order to form a better connected composite structure and a protected substrate layer. Collins et al., while not teaching the use of polyurethane as an intermediate layer, does not teach away from the use of polyurethane as an acceptable intermediate layer (Table 1). It would have been obvious to one having ordinary skill in the art at the time of invention to modify the teachings of Collins et al. of disposing a protective intermediate layer between polycarbonate and relative soft plasticized top coat by applying a layer of polyurethane to the substrate as the protective layer (a tie layer) between the plastic and rubber layers in order to create a better connected composite structure and a protected layer of polycarbonate. One having ordinary skill in the art at the time of invention would have been motivated by the teachings of Nilsen et al. and Zabrocki et al. to test out polyurethane as a suitable intermediate layer as Collins et al. tested out a series of different intermediate layers to find the most suitable protective layers in order to find a possible less expensive manner to protect polycarbonate and to produce protected polycarbonate in a more efficient less expensive manner. It would have been

Art Unit: 1732

further obvious to one having ordinary skill in the art at the time of invention to form a protected layer of polyurethane by coating the polycarbonate (plastic part) as taught by Collins et al. with a layer of liquid precursors of polyurethane and to react and cure those precursors to form a well connected layer of polyurethane as is well known in the art to the polycarbonate prior to the molding of a rubber layer onto polycarbonate in order to protect the polycarbonate from degradation as taught by Collins et al.

Collins et al. also does not specifically teach a step of cleaning and drying the polycarbonate piece before the application of the barrier layer to the plastic piece. Grimm et al. and Perry et al., however, both teach processes where a surface to be molded against is cleaned prior to molding in order to improve adhesion between the preform and the molded (applied) material. Perry et al. teaches that it is known to dry parts after cleaning the part.

Grimm et al. teaches the production of a sandwich structure by molding polyurethane against PMMA. Grimm et al. further teaches, "In order to obtain this outstanding adhesion it is sufficient to clean the PMMA surface to be coated with a rag soaked in n-ethanol so that it is free from grease and dust." (Column 4, lines 38-40)

Perry et al. teaches a coating method involving substrate cleaning (title). Perry et al. teaches that substrates are generally cleaned prior to coating (Column 1, lines 18-22). Perry et al. teaches the use of alcohols to clean substrates (Column 2, line 25) and teaches the drying of the substrate after cleaning by blowing air onto the substrate (Column 3, lines 40-41).

Art Unit: 1732

It would have been obvious to one having ordinary skill in the art at the time of invention to clean the surface of the polycarbonate article as taught by Collins et al. prior to applying (molding) on the protective layer in order to improve the adhesion between the polycarbonate layer and the protective layer in order to form a more resilient product. It would have been further obvious to one having ordinary skill in the art at the time of invention to dry the polycarbonate after cleaning the polycarbonate in order to ensure that any cleaning solvents used to clean the polycarbonate do not interfere with the bonding of the polycarbonate with the protective layer.

With further regard to claim 16, Collins et al. teaches the use of a polycarbonate plastic piece.

With regard to claims 28-30, it is further well known in the art that polyurethane is formed from liquid precursors (usually an isocyanate component and a polyol component) at ambient conditions to form polyurethane. It would have been obvious to one having ordinary skill in the art at the time of invention to preform the operation of reacting polyurethane onto the plastic piece under ambient conditions as is well known in the art. It is further noted that the limitations of instant claims 29 and 30 are merely reciting ambient conditions.

With regard to claims 17-21, It is further noted that it is well known in the art to clean substrates prior to connecting the substrate to second material with numerous solvents and cleaners and to dry the substrate after cleaning to ensure no impurities or residual cleaning materials interfere with the bonding between the substrate and the second material. It is further well known in the art of molding to dry a material by many

Art Unit: 1732

methods including the use of heat drying in an oven or using compressed air to dry a material by increased evaporation rates. It would have been obvious to one having ordinary skill in the art at the time of invention to clean and dry the plastic part as taught by Collins et al. by any of these well known methods and cleaning solutions based upon the relative cost and availability of each of these cleaning solutions and drying methods.

With regard to claims 31 and 32, Collins et al. teaches that the intermediate layer must be sufficiently thick to function as an effective barrier layer (Column 5, lines 19-21). Although Collins et al. does not specifically teach a thickness, it is the examiner's position that the actual thickness is a result effective variable depending upon the variables of what material is used as the barrier material and how much plastizer is used in the soft top layer. It would have been obvious to one having ordinary skill in the art at the time of invention to determine the optimal thickness for the barrier layer through routine experimentation after selecting the specific barrier and soft-top materials.

With regard to claims 34-36, it is notoriously well known in the art to cure polyurethane at an elevated temperature for a sufficient amount of time to impart the desired amount of cross-linking. It would have been obvious to one having ordinary skill in the art at the time of invention to cure the barrier material (when polyurethane) for a sufficient amount of time and at a sufficient temperature to yield the desired material properties and to determine the optimal amount of time and optimal temperature through routine experimentation.

With regard to claims 22, 33, and 37, it is well known in the art to produce translucent and transparent consumer articles in order to increase the aesthetic appeal

Art Unit: 1732

of the consumer article. It would have been obvious to one having ordinary skill in the art at the time of invention to produce consumer articles with the structure as taught by Collins et al. out of transparent and translucent materials in order to produce a transparent article with improved aesthetic appeal.

13. Claims 23 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over U.S. Patent No. 4,550,058 (Collins et al.) in view of U.S. Patent No. 6,258,443-B1 (Nilsen et al.), U.S. Patent No. 4,543,291 (Giles, Jr. et al.), U.S. Patent No. 5,334,450 (Zabrocki et al.), U.S. Patent No. 3,496,000 (Hull et al.), U.S. Patent No. 6,007,902 (Adur et al.), U.S. Patent No. 5,856,371 (Grimm et al.) and U.S. Patent No. 6,221,436-B1 (Perry et al.) as applied to claims 15-22 and 25-37 above, and further in view of U.S. Patent No. 5,326,800 (Horn et al.)

With regard to claims 23 and 24, Collins et al. does not teach the use of this structure for computer casings, but simply for use with polycarbonate articles that have a soft skin used to improve the aesthetic appeal of the article (Column 1, lines 6-9). Horn et al. teaches that computer casings are often made of polycarbonate (Column 5, lines 64-68). It would have been obvious to one having ordinary skill in the art at the time of invention to use the structure as taught by Collins et al. in the production of computer casings as it is known in the art to produce computer casings out of polycarbonate (Horn et al.) and to provide an outer soft skin on polycarbonate articles (Collins et al.) in order to produce a decorated computer casing which will not have the plasterers in the soft skin attack the polycarbonate. A computer casing is a computer peripheral.

Response to Arguments

14. Applicant's arguments filed 6-12-03 have been fully considered but they are not persuasive.

With regard to the applicant's argument that Collins does not teach that the protective barrier (barrier layer) prevents the rubber layer from disrupting a structure of the plastic piece, the examiner however disagrees. It is clear even from a cursory reading of Collins et al that the entire point of the barrier layer is to prevent the migration of plasticizer from the soft top layer to the polycarbonate layer (Column 5, lines 19-25) and that such a migration of plasticizer would cause a chemical degradation of the polycarbonate resin (Column 1, lines 15-20). It is the examiner's position that a chemical degradation of a material would constitute the disruption of the structure of that material.

With regard to the applicant's argument that the soft top material as taught by Collins et al. does not constitute a rubber, the examiner points out that Collins et al. teaches the inclusion of "a rubber modified styrene resin" as part of the soft top layer, so it is the examiner's position that Collins et al. does teach a rubber top layer. Further, if the applicant goes to the dictionary definition of "rubber" at www.dictionary.com, the applicant would find that a second definition of "rubber" is "Any of numerous synthetic elastic materials of varying chemical composition with properties similar to those of natural rubber." It is the examiner's position that the term "rubber" is more broad than the definition given on page 9 of the response filed 6-12-03 and does include the soft top material as taught by Collins et al. because the material of Collins et al. does have

Art Unit: 1732

material properties similar to those of natural rubber. The applicant admits on lines 14-15 of page 9 of the response filed 6-12-03 that the soft top material has a rubberlike appearance.

Collins et al. does not teach away from the use of rubber, as the material as taught by Collins et al. constitutes a rubber (synthetic, not natural). Collins et al. teaches the use of a barrier layer to protect the polycarbonate from the soft top layer, which is the presently claimed invention.

With regard to the applicant's arguments with respect to claims 9, 25-32, and 35-36, the examiner takes the position that these process conditions and methods of positioning each material would have been obvious to one having ordinary skill in the art at the time of invention based upon the materials being used. If the applicant believes that these process conditions and methods to yield unexpected results then the applicant should provide evidence of this.

Conclusion

15. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the


Art Unit: 1732

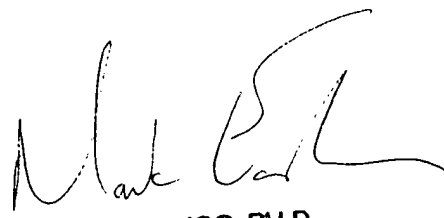
shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Geoffrey P. Shipsides whose telephone number is 703-306-0311. The examiner can normally be reached on Monday - Friday 9 AM till 5 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Colaianni can be reached on 703-305-5493. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.


Geoffrey P. Shipsides/gps
August 11, 2003


MARK EASHOO, PH.D
PRIMARY EXAMINER
Art Unit 1732
11/ Aug /03